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Discriminative Environmental Properties in Terrorist Environments: A Basis for Training

Maxwell Taylor

University College (Cork, Ireland)

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Michael Kaplan, Director

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DISCRIMINATIVE ENVIRONMENTAL PROPERTIES IN TERRORIST ENVIRONMENTS: A BASIS
FOR TRAINING

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DISCRIMINATIVE ENVIRONMENTAL PROPERTIES IN TERRORIST ENVIRONMENTS:
A BASIS FOR TRAINING

This Final Report details the work undertaken so far in the project¹. Further work is currently in progress, including analysis of data already collected, and further empirical work. This report, therefore, is an incomplete account of the project so far. The work has been conducted on the assumption of a three year programme (although this contract refers to only one year). An application to increase the scope of the work for a second and third year was made in February, 1987, and a further contract has been received.

Technical Objectives

In the original proposal, the following technical objectives were set:

1. to identify and describe environmental and contextual cues that are available to experienced security force personnel and may be associated with terrorist threat;
2. in the theoretical context of Applied Behaviour Analysis, conduct experimental investigations to establish the discriminative stimulus properties of these cues and the characteristics of their relationships to relevant behaviour;
3. build on the foregoing to develop a rationale for designing training techniques.

These were to be achieved by:

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- a. a literature review;
- b. the identification of individuals who might be successful at making judgements in appropriate work settings, and an exploration of their capacities through interview and empirical investigation;
- c. examinations of appropriate records;

Progress of Project: practical and organisational issues

In order to develop the work as detailed above, it was necessary to gain formal approval for the project to be undertaken. The focus of the work is primarily on the activity of the Police, as members of the Security Services, and therefore permission to access records and men was sought from three police forces who might have experience of useful contrastive incidents on which to draw. They were The Royal Ulster Constabulary, The Garda Siochanna, and Gemeentepolitie Amsterdam. Permission to undertake the work has been forthcoming from the Chief Officer of each Police Force.

There have been difficulties in arranging access to information and men, which as referred to in the 2nd Interim Report, resulted in some delays. The most prompt acceptance came from the Commissioner of the Garda Siochanna, and therefore work within his jurisdiction was commenced first. Both the Royal Ulster Constabulary and the Gemeentepolitie Amsterdam were somewhat slower in giving formal approval. Initial responses from the R.U.C. were very favorable, but the proposal was subjected to a lengthy series of examinations by The Chief Constable and Command of the R.U.C. before his approval and cooperation was given. Both access and support in the R.U.C. is now excellent. Difficulties with translation services, and general concern over language delayed progress

of the project in Holland. This is also now resolved, through the good offices and assistance of the Centrale Recherche Informatiedienst (National Criminal Intelligence Service), who will both translate material and supply an interpreter. Again, access to relevant information about incidents, and access to participants, is now excellent.

I should record my indebtedness to the Chief Officers of the various Police Forces, and to Maarten de Jong, Deputy Head of the Centrale Recherche Informatiedienst; Commissaris Kees Sietsma, Commander Support CID, Gemeentepolitie Amsterdam; Chief Superintendent W. Wilson, Royal Ulster Constabulary; Chief Superintendent S. Dobson, Royal Ulster Constabulary; Chief Superintendent A. Reilly, Garda Siochana.

Progress of the Project: Conceptual Issues

The work of identifying appropriate individuals and incidents began in September, 1986. Parallel with that, the literature review undertaken under contract no. DAJA45-84-M-0400 was extended and enhanced, in an attempt to develop a conceptual framework from which selection of incidents, etc., might follow. The following details some of the relevant issues.

Discussions of Terrorism are hindered or obscured by a number of assumptions. One assumption is that terrorist activity is confined to socially deprived, or politically unstable areas. Whilst we typically consider the terrorist to be active in some form of unstable or hostile setting, such as the Lebanon or Northern Ireland, the terrorist in fact operates in any setting. The nature of the society (democratic, totalitarian, etc). does not remove from it the threat of terrorist action,

nor for that matter does the capacity of the security forces to respond to that threat.

The occasional Provisional I.R.A. bombing campaign in Britain, or the activities of European terrorist groups such as Baader-Meinhof, ETA, or the Rote Armee Faktion illustrates the ability of the terrorist to operate in almost any kind of setting. Schmid (1983) gives a 'World Directory' of over 1000 terrorist groups, in which 127 countries are identified as having at least one terrorist group within them. This rather simple point has an important bearing on the selection of incidents for this project, however, because it means that to have utility, the analysis must be extended beyond the more obvious foci of terrorist activity in Northern Ireland, to encompass more normal settings in democratic societies.

An important quality of the terrorist environment is the terrorist group. It constitutes for the individual the immediate social environment in which he lives and works. There seems however to be no necessary simple link between kinds of actions undertaken by terrorists, and type of terrorist organisation. Merari (1978) has proposed a 4 dimensional classification of terrorist groups, based on the populations from which they draw their support, and the nature of their operating environment. One major class of group he identifies are the Xenofighters, who direct their activities against foreigners in some sense, in contrast to homofighters, who direct their activities against their own countrymen. Both of these major classes can then be further sub-divided into whether or not they have a domestic base, or are located in a foreign country; thus Domestic based Xenofighters (eg. EOKA, FLN, Frelimo), Foreign based Xenofighters (eg. PLO, PFLP), Domestic based Homofighters (eg. Red Brigade, Rote Armee Faktion) and Foreign based Homofighters (United Croats of West Germany) can be

identified. Using this system, some groups are not so easily classified, however. The IRA, for example, are in a sense Domestic based Xenofighters (against what they regard as British occupation forces), but they are also Domestic based Homofighters (against Northern Irish Protestants and their Catholic opponents) and Foreign based Xenofighters and Homofighters (to the extent that they use bases in the Irish Republic).

The value of this kind of taxonomy for our purposes lies not in its completeness, however, but in its capacity to delineate and describe differences in aspirations and operational imperatives of the various groups, and therefore indicate the kinds of attractions to membership for individuals and perhaps the characteristics of their activities. The nature of the groups, it can be reasonably assumed, determine their priorities and activities. Merari indicates some of the characteristic modes of action of the various types of groups, which illustrates this point. He notes, for example, that since xenofighters are not dependent on their target population for support, they can have less regard to scale of injuries they inflict. The Homofighter, in contrast, because he in some sense is a part of the community in which he operates, must have regard to the immediate, as well as long term, consequences of his actions. These differences can be illustrated by the actions of the Provisional I.R.A., who inflict indiscriminate damage through bomb attacks on Security Force targets perhaps located in either protestant or neutral areas, but use much more specific forms of action in contrast to bombs (such as knee capping or murder) against members of the catholic communities.

A somewhat simpler classification scheme with greater relevance to our discussion has been described by Post (1986), who has identified two major types of terrorist group, each of which may attract different kinds

of individuals, and exert influences on those members in dissimilar ways. The first kind of group he identifies is what has been termed the anarchic-ideologue group. These are often relatively small terrorist groups committed to the overthrow of their own government and society for ideological reasons. Groups such as the Red Army Faction in Germany, or the Italian group Red Brigade would be examples. The second type of group are the nationalist-separatist groups. These are often relatively larger, and are motivated by nationalism or regional aspirations of some kind, often involving independence. The Basque organization ETA, and the Irish Provisional I.R.A. are examples of these kinds of groups.

The nature of such groups gives some indications of the features of membership that might be important. Nationalist groups may well command begrudging support amongst their community, if not explicit enthusiasm. In that community, for a young person to join a well established organization of this kind might be seen, as Post notes, almost as a 'rite of passage' into adult life; an expression of solidarity and commitment to the community in which you were born. Often, there is a folk history on which to draw, and local heroes to emulate, in which parents or families can participate.

Given the above, we can consider further some of the assumptions made about terrorist actions. One major assumption that has hindered systematic work in this area is the assertion that terrorist action is random, and therefore cannot be subjected to systematic analysis in the way that other behaviour might be. Merari (1978) questions this assumption in his attempt to identify general trends in choice of targets by different kinds of terrorist groups, and this kind of analysis has been

taken further by Pockrass (1987), who has sought to identify consistencies in the choice of target in Northern Ireland by the various terrorist groups operating there. On the basis of this, it would seem a reasonable assumption that terrorist activity is neither mindless or unpredictable in a general sense. Other assumptions that might follow from this, such as the ascription of mental illness to the terrorist, or other similar kinds of explanations, equally seem inappropriate (eg. Taylor, 1985; Ferracuti and Bruno, 1983).

When we come to look at more detailed analyses of terrorist behaviour, we find the literature strikingly barren. In part, this is a result of the assumption that terrorist behaviour is essentially unpredictable, and therefore inappropriate for analysis. However, we can draw analogies in conceptualising terrorism with our thinking about crime that might help us to progress the analysis of terrorism. Until relatively recently, psychological thinking about crime was dominated by attempts to identify particular personal attributes of individuals that might be associated with a propensity to commit crime. Thus, the notion of the criminal personality became prevalent, and in further exploring these notions, efforts were made to identify generic qualities of criminals (eg. Eysenck, 1970). The parallels with the analyses of terrorism are striking. Both seek some form of particular and essential attributes to distinguish the terrorist or criminal from other categories of people.

The greatest difficulty with this approach to crime, however, is the repeated failure of such analyses to identify unique pathologies of the criminal condition that do not occur in the general non-criminal public. The failure to identify generic properties of criminals inevitably calls into question the utility of this approach. Similar failures can be

identified with respect to the analysis of terrorism.

In practical terms, approaches to crime emphasizing criminal attributes have proved to have little utility in terms of crime control. Crime prevention techniques have tended to develop along the lines of increased hardware sophistication, in part on the assumption that because the criminal has criminal tendencies, he must be deterred, rather than prevented. This follows if we see criminal attributes as part of the a personality structure; they become inaccessible to immediate change. This is a very negative approach to the problem, but there is another, and more fundamental difficulty, with this view. Even if attributes of the potential criminal were known and identifiable, it is difficult to see what might be done with such knowledge, at least in terms of crime control. The potential (or even high probability) to commit an offense is not sufficient grounds under our present legal systems for arrest or other direct preventative action. What else can we do to prevent crime? We are thrown onto deterrence, and technological solutions to crime prevention.

Within this personal attribute approach to crime, the only way of addressing prevention is in terms of what happens to the offender when he is caught. Knowledge of the determinants of criminal behaviour might then be thought to have a role in the development of effective strategies for rehabilitation of convicted offenders on committal to prison, or other facilities. Thus crime prevention, if it is to occur, must be focussed on the offender when he is convicted. He can then be 'treated'. Parallels with the analysis of terrorism are obvious and striking.

Increasingly, however, the view that prison has any role in controlling crime through the regime offenders are exposed to has been called into

question. Authors such as Brody (1976) and Martinson (1974) began a process of challenge to this general approach by demonstrating in empirical terms the inadequacy of rehabilitative strategies to change subsequent criminal behaviour. This challenge has resulted in a major re-appraisal of such approaches. As part of this re-appraisal, there has been growing interest in what is termed the 'situational' approach to crime prevention (Hough et al., 1980). This approach has as its focus not the understanding of the broader concept of crime and the criminal, (although the analysis may contribute to that), but seeks solutions to the problems of crime by better understanding the immediate environmental context in which crime is committed.

An example of how this kind of analysis might proceed can be seen in Bennet and Wright's (1984) analysis of residential burglary. Instead of attempting to describe generic attributes of criminals, they focus on the problems associated with a particular crime (residential burglary). They used convicted burglars as subjects in a series of investigations of relationships between particular kinds of environmental cues or cue clusters (lights in houses, car in drive, availability of cover, etc.) and the decision to commit burglary at a particular property. A burglar's behaviour is closely related to the presence of cues of this kind, and he seems to use them in his decision to offend to predict both risk and reward. These environmental accounts of crimes like burglary are also consistent with the more general kind of analysis of policing offered by Sykes and Brent (1984), and lend empirical and conceptual support to other situational crime control notions, such as neighbourhood watch, as a technique of crime control.

The assumption underlying this view is that the criminal is 'broadly

rational in nature' (Simon, 1978) and this has received coherent expression by Cornish and Clarke (1986). The basic assumption Cornish and Clarke make is that the offender benefits from his criminal choices, and that this benefit is the determining factor in his commission of crime. What benefit might mean in this context is a matter for analysis. In the example given above, a number of benefits can be identified, some more obvious than other. Money or goods, for example from a successful burglary, would be one kind of reward, but the burglar also gains excitement from his activity, status amongst his peer group, and confirms his membership of that marginalised group.

Like terrorism, crime is varied, committed under a range of circumstances, and is sometimes purposive. It often results in victims that may well have little knowledge of, or contact with, the criminal. Without necessarily making assumptions about the criminal nature of terrorism, it seems possible to draw analogies between the processes of crime, and the processes of terrorism. It is not necessary to assume that they may be aspects of the same essence to see that there may be utility in thinking about them in the same way. Of course burglary as in the example above, or other crime for that matter, tends not to be committed in the same kinds of circumstances as terrorist actions are. Aside from the violence of terrorism (which of course can characterize some crimes anyway), a notably different feature is the intense group qualities of terrorism. These qualities might be present for the criminal, but they are nowhere near as potent or important. Indeed, we might assume that for the terrorist such group forces might be of great significance for the terrorist, constituting perhaps the major controlling consequence for the context to his acts.

Extending this analysis of crime to terrorism has attractions. Cornish and Clarke (1986) make a fundamental distinction between criminal involvement and criminal events, which we can usefully extend to the analysis of terrorism. In their terms, 'involvement' refers to those processes which lead to choices for a criminal about becoming involved in crime, remaining in crime, and leaving a criminal career. The determinants of 'events' can be seen as quite separate, and in making decisions about events, the criminal utilizes different categories of information. These different factors influencing the criminal career of an individual may overlap, but can be conceptualised as quite different processes.

When this conceptual structure is applied to terrorism, it enables us to make sense of some of the confusion in the literature. In the main, analyses of terrorism have been concerned with 'involvement' decisions, although they have not always been expressed in these terms, and indeed may have been addressed at a level of generality that does not allow of meaningful analysis. Much of the work on the general social attributes of the terrorist falls into this category. However, much clearer 'involvement' forces can be identified in the analysis of group pressures on the individual, in terms of initial attraction to the terrorist world, and the conditions that maintain and polarise the individual once a member of it (see Taylor and Ryan (1988), and Taylor (1988) for a more complete discussion).

The 'event' factors in terrorism have received little investigation. Those same group forces might constitute one potent event factor for the terrorist, in that they provide the principle personal audience and consequences for his actions. Group approval, for example, we know to be

an important element in the terrorist's own accounts of his actions. What we are lacking however is any analysis of the other situational factors that lead to terrorist decision making; the parallel to the investigations of burglary, for example, described above. The initial empirical work on this project has addressed this issue, and is encompassed primarily within technical objective 1.

Progress of the Project: Empirical Work

Preliminary Considerations.

In the initial project proposal, no reference was made to the precise kind(s) of terrorist incidents which would be investigated. Within an Irish context, terrorist incidents against the security forces can take two general forms:

- those which involve deliberate choice and identification of a particular victim in some sense, in the form of an ambush, etc., often involving a shooting;
- those which involve choice of a class of victim (such as police officers in a police vehicle, etc.), again in the form of an ambush, but which may well employ more indiscriminate methods of damage, such as bombing, etc.

These are by no means mutually exclusive categories, nor are they exhaustive. In order to progress the project, an initial decision was made to focus on situations where there is deliberate choice of individual target, rather than choice of a class of targets. Deliberate choice of a target implies some form of prior planning, and it follows from this that for a planned attack to be successful, there has to be prior knowledge of the movement of the individual(s) targeted.

The work undertaken in the project is presented under geographical headings.

Republic of Ireland

Within the Republic of Ireland, deliberate attacks against the security forces are very rare, and in fact discouraged for the moment by the principal terrorist organisation, the Provisional I.R.A. Other Republican groups such as the I.N.L.A., for example, have been involved in actions against the security forces of the Irish Republic, however; loyalist terrorist groups probably lack the knowledge and resources to mount such attacks. Thus, attacks against individuals in the sense discussed above rarely occur. However, there is a form of terrorist activity in the Republic which does meet some of these criteria, although the focus of the attack is money rather than individuals - armed robbery. Armed Robbery is a major crime problem, and much of it is organised and executed by terrorist groups. The Official I.R.A., I.N.L.A, and the Provisional I.R.A. have all been, and continue to be, involved in major robberies to raise funds, etc. Thus many armed robberies in the Republic are in a sense acts of secondary terrorism.

This aspect of the project has therefore focused on the analysis of armed robberies, with a view to:

- a. establishing and developing knowledge of environmental and contextual cues that might facilitate the prediction of armed robberies (technical objective 1);
- b. empirically explore the capacity of experienced and inexperienced police officers and others to identify environmental and contextual cues

(technical objective 1 and 2).

The investigation has taken two major directions:

1. a. the identification, from official files, of terrorist related armed robberies;
b. the analysis of file information, supplemented by personal accounts, of predictive qualities.
2. the empirical exploration of experienced and inexperienced officers use of environmental cues in predicting simulated robberies, based on information from 1 a. and b.

After initial discussions with Garda Authorities, and a series of pilot analyses of files, a total of 18 Armed Robberies from the period 1977 to 1987 have been analysed in detail. They were chosen on the basis of either representativeness, or completeness. All robberies were conducted either in the Cork region, or the Dublin region, and involved the movement of money, (as opposed to bank robberies, etc). For purposes of contrast, 7 were identified as political in origin, and 11 were clearly non-political.

General information about the crimes can be presented in terms of their locations, type of vehicles used, hostage taken, use of weapons, and time of day, as follows:

Percentage of terrorist and non-terrorist armed robberies		
	Terrorist(7)	Non-terrorist (11)
Town Location	85	90
Victim Shot	42	18
Hostage taken	28	0
Time of day 0600 - 1200	100	36
Car used	100	36
Av.amount stolen/robbery	£46,290	£16,336

Clear differences between terrorist and non-terrorist armed robberies are apparent, which can be characterised in terms of planning. The terrorist robberies identify more lucrative targets than criminal robberies, execute well organised and rapid robberies, maximising returns. This is apparent in the time of robbery, for example, for the terrorist crimes select their victim at the time when most cash is available. They are also appreciably more violent, not only displaying weapons, but shooting individuals more readily. They also uniquely from time to time take hostages.

An typical example of a terrorist related armed robbery took place in Carrigtowhill, Co. Cork in February, 1983. A Post Office van, with a

uniformed Garda escort, began to make deliveries to Post Offices, leaving its depot at 0553. At its first delivery, at 0605, armed men rammed the Garda patrol car from the rear, disabling the car. They took the occupants of the car prisoner at gun point. Another group rushed the Post Officer driver, holding him at gun point and demanding the money he was carrying. The driver was eventually forced to drive his van to a nearby farmyard, where the contents of his van were transferred to another van, and he was left tied in his own van. The incident took less than 5 minutes, and netted in excess of £54,000. It was thought to be undertaken by the Provisional I.R.A.

More detailed analyses of these 18 incidents were undertaken to establish:

- a. the precise details of what happened (official reports were frequently vague at points);
- b. the availability of cues or other predictors that might have assisted participants.

Detailed analysis involved discussion of the incidents with Garda members of the Special Detective Branch and others who might have knowledge of the events. Also, 12 interviews were conducted with participants (7 terrorist incidents involving members of the Garda Siochana, 5 non-terrorist involving civilians). Interviews were non-structured, and focussed on expanding the details given in file statements. Not all proved to be of value, mainly because inevitably, in exploring the events further, and in particular the actions of the participant police officers, the idea that this was in some sense a critical activity arouse. Even though assurances of confidentiality were made, etc., this remained a problem.

Raids were always on, or related to, vehicles carrying money, and the interviewees were always occupants of the vehicle carrying the money, or an escort vehicle. Raids only take place whilst the vehicle is stationary. Therefore danger points are when the vehicle is stationary as part of its activities, or when it has been deliberately stopped. On only one occasion was a vehicle stopped 'mid-journey'. In all other cases, raids took place when money was being delivered or taken into the vehicle.

Each incident yielded different potential contextual and actual cues, which may be summarised as two broadly different classes of cues:

1. cues specifically related to the raid. Unusual activity in the vicinity, the presence of vehicles in sensitive areas, earlier accounts of observation or unusual events, etc. Invariably, these cues were available to the vehicle occupants, although they were frequently not attended to before the raid by vehicle occupants;
2. 'compound' contextual cues. These were events which in themselves were unexceptional, but acquire significance by association with the potential raid. A motorcyclist attending his vehicle, two motorcyclists talking, a group of people standing close by, two people stood with a bag, etc. are examples of normal events which developed into raids on vehicles. They become abnormal in the context of the potential for a raid.

In all cases, it was possible to identify points of vulnerability, and identify events which if the context were known, would have served to predict the event. In the case of the robbery at Carrigtowhill above, for example, a number of events could have been responded to:

- a. a house (near to the Post Office) had been taken over the night before by the raiders, and two adults and a child held hostage for the night. The owners car was driven onto the road at around 0430, and there was some

- activity around the house between 0530 and the raid. Both the owners vehicle and at least one other vehicle was in the road;
- b. this activity was heard by at least one neighbour, who noted it as unusual;
- c. a man was seen in a field with a radio along the route taken by the Post Office van;
- d. the road outside the Post Office was straight, and there was clear opportunity for the occupants of the Garda car to see and respond to the vehicle as it rammed them. The engine was turned off the car, and the occupants appear to have made no attempt to keep any form of either forward or rear surveillance of the scene;
- e. the group who rushed the Post Office driver were visible to the Garda car occupants before their vehicle was rammed.

Whilst a., b. and c. require either someone to report unusual events, or a sufficient knowledge of the area by the Gards to recognise unusual cars parked, moving, etc., d. and e. were clearly available cues which gave warning (if brief) of the events had they been responded to. (The failure to report in a. and b. may also be related to other factors in this particular case).

In each incident, events immediately preceding the incident could be identified which if acted on, might have prevented it. However, they were invariably of brief duration, required some degree of vigilance to notice, and sometimes were 'normal' events whose significance lay not in themselves, but in their association with the particular incident in question.

This study served to establish the utility of the cue analysis proposed. To explore this further, a series of simulations of street scenes have been

constructed to:

a. explore the capacity of individual police officers to recognise and describe events such as those described above;

b. explore whether 'experience' is an issue in this.

"Experience" has been defined in terms of service and supervisors recommendations.

Two studies have been conducted, and a third was initiated, but had to be abandoned due to operational pressures on participants.

The experimental method used is as follows. Using a random access slide projector, subjects are encouraged to explore and report on a simulated street patrol. Each subject has a map of the street, and is instructed to begin the patrol by calling up the number of the first slide. Movement down the street is represented by slides giving forward vision, but at each point of forward vision, there are a number of collateral slides which enable the officer to explore side vision, or more detailed pictures of objects, situations, etc. Choice of slides, use of collateral slides, etc., offers a means of behaviourally exploring the use made by the officers of the visual information available. Slide presentation is computer controlled, with the subject selecting a slide by keying in the number from the map he has. Choices, time between choices, etc. are recorded by the computer. Slide numbers are not sequential.

Three studies employing this general technique have been conducted. The first simulated three patrols in different street environments, and used experienced (n=10) and inexperienced (n=10) officers as subjects. Each 'patrol' consisted of 10 main slides, and a further 30 collateral slides.

Subjects were asked to explore the street, and to describe what they regarded as significant events, etc. All comments were recorded. On one of the three patrols (chosen at random) they were told that they had information that 'an armed robbery was expected in the town that day'. A replication of this study has subsequently been carried out, using different subjects.

The third study explicitly simulated as closely as possible 3 of the armed robberies analysed. The same experimental procedure as above was followed, with the same number of subjects. Each simulation in this case consisted of 10 main slides, and some 45 collateral slides.

Analysis of the results of these studies so far has revealed unexpected features. In general, experienced officers failed to identify and make use of cues to the same extent as inexperienced officers. Significant differences emerged in terms of number of slides chosen, use of collateral slides, etc. Such differences also emerged in terms of content analyses of the subjects verbal reports whilst viewing slides. All officers proved to be sensitive to the warning that an armed robbery was about to take place, in that reference to cues increased. However, the difference between experienced and inexperienced officers remained.

These results are rather surprising, and merit further investigation before proceeding with the main part of the study. Operational demands on subjects due to the recent Hostage problems, and related issues, forced the abandonment of a planned study. However, a further study is now intended to explore differences of the kind described above in a rather different simulated environment. Nee and Taylor (1987), and Taylor and Nee (1987) describe differences in convicted burglars and householders in

terms of their capacities to recognise cues related to potential for residential burglary. It is planned to use the same experimental situation to investigate the behaviour of experienced and inexperienced police officers, in order to offer a contrast with the patrol environments studied so far. This study will offer an opportunity to compare the behaviour of police officers with that of other groups, and might further reflect on the differences between experienced and inexperienced officers.

The planned studies extending the analysis of cue use in simulated settings will then be carried out, developing the analysis to include vehicle movement/presence and personnel movement/presence as originally intended.

Northern Ireland

The study here is following the same format as in the Republic of Ireland (analysis of files, interviews, etc.) but due to delays in gaining approval, has not yet reached the empirical stage. Simulations similar to those discussed above are planned to be carried out. Technical facilities are being provided by the RUC which will make slide taking, preparation, etc., much easier.

Unlike in the Republic of Ireland, life threatening events are not unusual in the day to day activities of the security forces. Police officers are not infrequently chosen as specific victims, and a parallel event to the armed robberies analysed in the Republic are attempts on the lives of security force members through ambush. These have been chosen for analysis. Using Force Incident data for the period 1984 to 1986, incidents involving, or appearing to involve, ambushes of security force personnel have been identified. The process of analysis of official registry investigation

records has begun, and will be supplemented by interviews with participants. So far, some 28 incidents have been identified. A liaison officer has been appointed to assist in access to records and personnel, and in analysis of the data.

Provisional results of ambush attempts reveal the importance of situational factors. Geographical factors, such as presence of escape, etc. are clearly of paramount importance in determining the location of ambushes. In most cases, prior warning would have been available, given sensitivity to environmental cues (although it is important not to overestimate the possibility of this in the operational setting).

One unexpected feature to emerge is the inadequacy of official records of ambushes that have been successfully avoided (as opposed to those that result in a fatality or injury). A logistically complex, but necessary, additional element to the study has therefore been introduced to identify and interview individuals who have successfully avoided ambush. This is now underway.

Although it was hoped to undertake some experimental investigations in Northern Ireland, these have in the event proved difficult to organise over summer, and have not yet been initiated.

The Netherlands

After a series of negotiations about how best to proceed, a list of the kind of information necessary to progress the project has been sent to the Centrale Recherche Informatiedienst in The Hague, for translation and forwarding to Gemeentepolitie Amsterdam. The information requested is

based on the analysis detailed above on the armed robberies and ambushes. A liaison officer is at the moment collecting this information, which will be forwarded to me when available. I will then visit Amsterdam and with an interpreter from the Centrale Recherche Informatiedienst, discuss and further develop that information, through interviews with participants, etc. Other than knowing that the process is in hand, I cannot give any information as to the time scale for the availability of this. I am informed that because of a serious hostage situation affecting the unit which I liaise with, collection of material has been delayed; I am however assured that the project will be progressed when circumstances allow.

Final Comments

The work described above is currently in progress, and any detailed account is at this stage premature. All the evidence from the work so far suggests that cues which might give warning are present in all the incidents investigated, although their recognition may require vigilance, or a recognition of the significance of a 'normal' event (men standing around, a motorcyclist dismounting from his machine) in the context of the activities in question. Empirical studies which will elaborate on this are presently being undertaken.

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